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specify roof drainage systems of Armco Stainless Steel for:

Attractive appearance Its eye-pleasing neutral tone blends Armco® Stainless Steel into any architectural design or color scheme. What's more, its surface stays attractive . . . doesn't "bleed" and discolor adjoining building areas. More than any other architectural metal, stainless combines lasting beauty, strength, corrosion-resistance and long life.

Corrosion-resistance Properly installed, roof drainage systems made of Armco Stainless Steel are practically immune to atmospheric corrosion.

High strength Exceptional strength is another advantage of Armco Stainless Steel. Roof drainage made of this durable metal holds up under ice and snow loads; doesn't sag. It resists buckling and cracking from extreme temperature changes too; stays straight and smooth during installation.

Abrasion-resistance The dense, hard surface of Armco Stainless resists the abrasive action of dirt, soot and roofing gravel. Softer metals may quickly wear thin, especially in valleys and elbows.

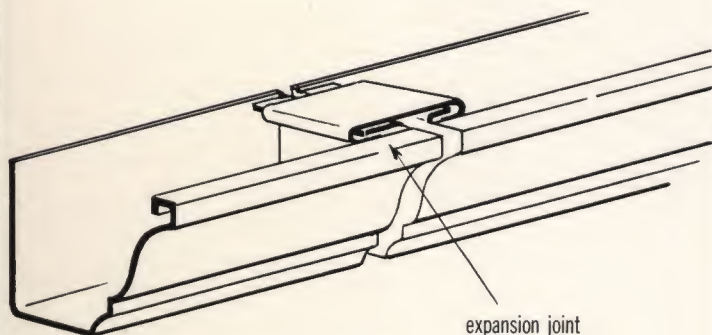
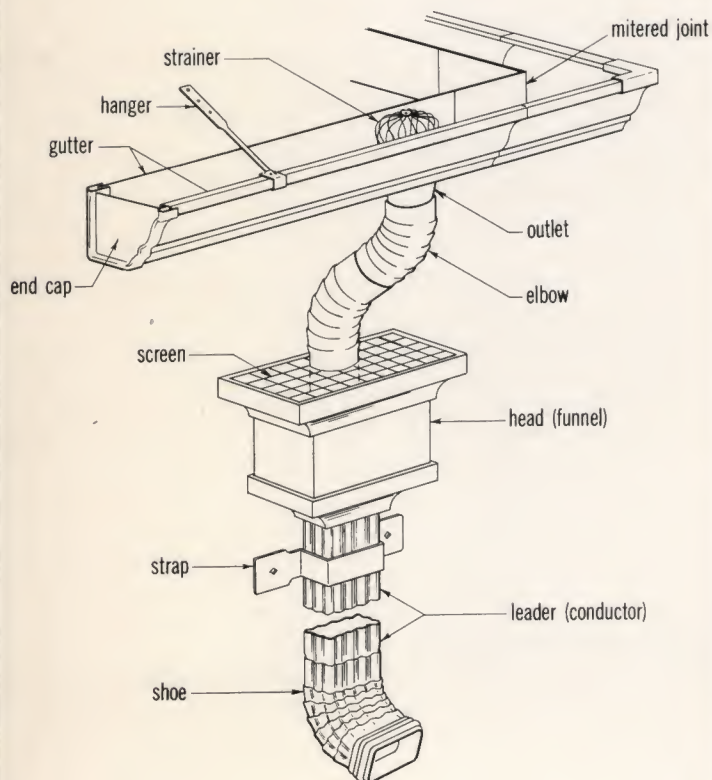
Economy Initial cost of this high-quality roof drainage is substantially less than that of competitive quality materials. And first cost is last cost because stainless roof drainage should last the life of the building when properly installed.



Available in standard parts, accessories

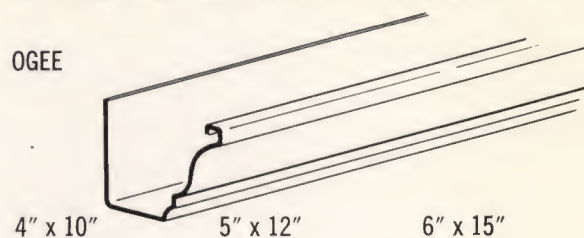
High-quality roof drainage made of Armco Stainless Steel is available in standard parts, fittings and accessories. For names of suppliers of standard parts and fittings, just check the enclosed postage-free card. Meanwhile, see why stainless steel is the answer to your quality roof drainage problems.

for a completely Stainless System

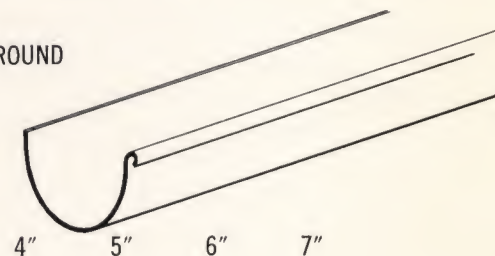


Gutters and Eaves Troughs

OGEE



PLAIN ROUND



Conductors

PLAIN ROUND

2" 3" 4" 5" 6"

ROUND CORRUGATED

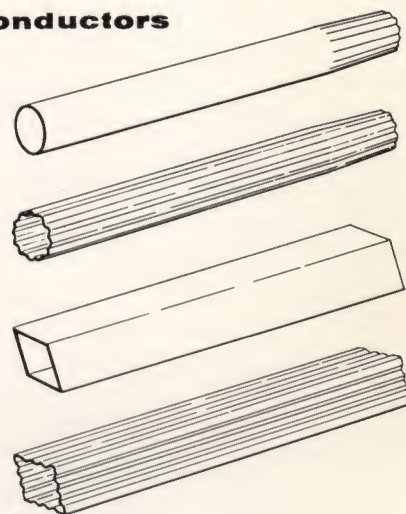
2" 3" 4" 5" 6"

PLAIN SQUARE

2" 3" 4" 5" 6"

SQUARE CORRUGATED

2" 3" 4" 5" 6"



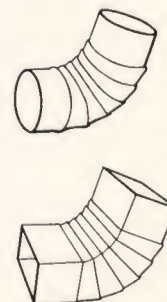
Shoes and Elbows

ROUND

2" 3" 4" 5" 6"

SQUARE

2" 3" 4" 5" 6"



Also available are an assortment of straps, hangers, hooks and other accessories in a variety of shapes and sizes.

Stainless roof drainage design

General

Design of roof drainage systems depends primarily on the amount of water to be handled. This in turn depends upon intensity and duration of average rainfall in a particular locality, and the area of the roof to be drained. Standard practice is to design roof drainage to handle the largest storm that might be expected in an area during an average 10-year period.

Gutters

For spacing up to 50 feet, gutters should be the same size as leaders; one inch larger up to 70 feet; 2 inches larger up to 90 feet.

Gutter slope should be about 1/16-inch per foot for good drainage. However, for the sake of appearance it can be installed "dead level." Expansion joints should be placed mid-way between outlets when needed.

Leaders

Four-inch round, square or rectangular leaders are usually the size needed. They should be near building corners so water won't have to flow far after a sharp turn. Long leader drops should have heads every 40 feet to admit air, preventing a vacuum. To compute leader size needed, just consult the map and table below.

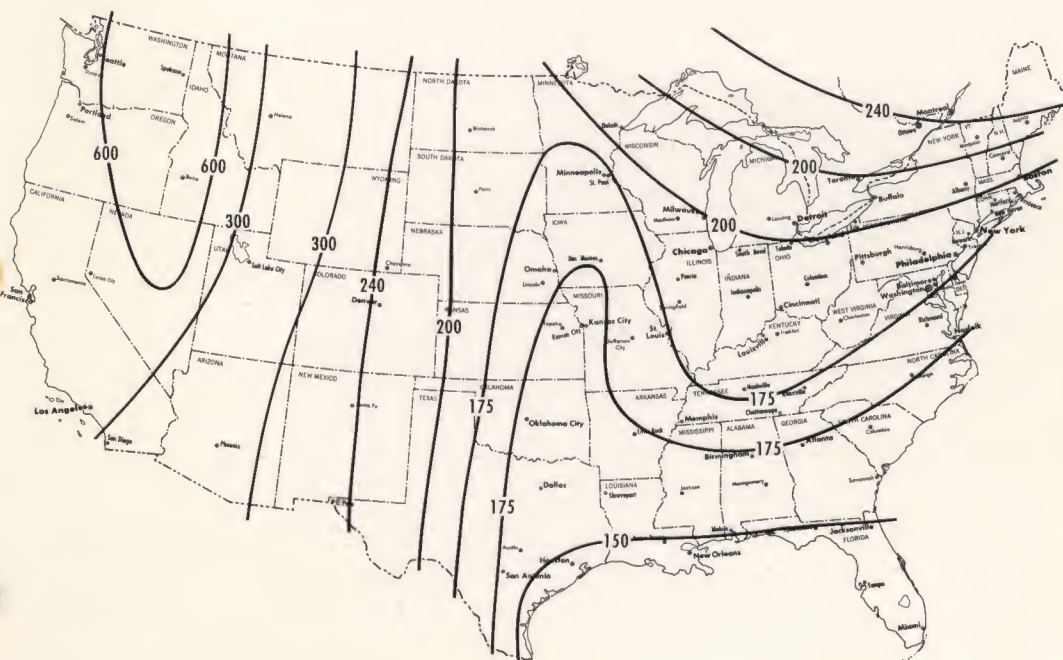
How to compute leader size

Directions

1. Check the map. It will indicate the approximate area drained, in square feet, per square inch of leader area, for a 10-year maximum intensity storm in your locality.
2. Divide this figure into the square footage of the roof area

to be drained; use the actual roof area, not its projected area on the horizontal. The result is the number of square inches of leader area required.

3. Then, consult the table of leader areas to determine the size and number of leaders needed.



table

Standard Leaders	Area Sq. In.	Sizes
Plain Round	7.1	3"
	12.6	4"
	19.6	5"
	28.3	6"
Corrugated Round	5.9	3"
	11.0	4"
	17.7	5"
	25.9	6"
Square Corrugated	3.8	1 3/4" x 2 1/4" (2")
	7.7	2 3/8" x 3 1/4" (3")
	11.7	2 3/4" x 4 1/4" (4")
	18.8	3 3/4" x 5" (5")
Plain Rectangular	3.9	1 3/4" x 2 1/4"
	6.0	2" x 3"
	8.0	2" x 4"
	12.0	3" x 4"
	20.0	4" x 5"
	24.0	4" x 6"



Some things to remember when installing stainless roof drainage

Forming

Since stainless steel forms readily, regular sheet metal shop equipment can be used for any forming necessary. However, since it won't be painted, care should be taken not to walk on or mar the surface during fabrication and erection.

Riveting

Chromium-nickel stainless steel rivets up to $\frac{1}{4}$ -inch in diameter, can be driven cold. Since they are tough, and work harden rapidly, heads should be completely formed with a few heavy blows—not a patter of light blows.

All accessories should be stainless steel. Hangers, hooks, circles, shanks, and other accessories are available in stainless. Always use stainless steel nails, rivets, screws, cleats and bolts. Other materials will stain the system.

Soldering

The soldering operation is the same as for regular steel. 70/30 solder (70% tin—30% lead) is preferred, but 50/50 solder, or a commercial stainless steel solder will do the job.

Cleaning

Flux is intended to etch the stainless surface for soldering. Naturally, if flux isn't removed, etching action continues, causing superficial rusting. Residual flux chlorides may also cause unsightly rust.

Thorough hosing and scrubbing with plenty of clear water, right after soldering, best removes this flux. If superficial rusting due to non-removed flux should occur, have



your contractor do this: (1) wash with plenty of clean water to remove chlorides; (2) swab on a phosphoric acid-containing stainless steel cleaner, letting it remain $\frac{1}{2}$ -hour or more; (3) when rust disappears, rinse with clean water.

Objectionable oily stains, fingerprints or grease may be removed by the same procedure. In many cases, however, these may be removed by scrubbing with a household detergent.

Painting

On rare occasions when painting may be desired, you have the satisfaction of knowing that stainless will take and hold paint well.

we'll help your contractor

If you'd like your roof drainage contractor to receive detailed information about fabrication of stainless steels, just write in his name on the attached reply card. We'll send the data to him.

STANDARD SPECIFICATIONS

Armco Stainless Steel for roof drainage systems may be specified this way:

"All sheet metal for roof drainage applications shall be .015" Armco 17-7 Stainless Steel (Type 301), Cold Rolled Strip, 2D Finish, Soft Temper. *Remove flux immediately after soldering.*"



Armco Steel Corporation

5355 Curtis Street
Middletown, Ohio

Export: The Armco International Corporation

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